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# Hospital Variation in Costs – A Challenge to the Value Proposition

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Mini Commentary on 2017-OG-19978R1: Hospital Variation in Cost of Childbirth and Contributing Factors: A Cross-Sectional Study

**Hospital variation in costs – a challenge to the value proposition**

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There is variation from clinician to clinician and institution to institution within the healthcare industry. This was identified by Wennberg in seminal work more than four decades ago.(Wennberg J. Science. 1973;182:1102-8) Since that time, variation in the provision of healthcare has been demonstrated in numerous settings and is thought to be related to the local and regional healthcare culture. Additionally, not only has a difference in health care

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utilization been demonstrated, but also health care costs.(Welch. N Engl J Med. 1993 Mar 4;328:621-7)

Recently, this variation in healthcare has been demonstrated in obstetrics as well. A study of hospitals across the US found that cesarean rates varied from 7% to 70%.(Kozhimannil KB, et al. Health Aff. 2013;32:527-35) These findings persisted even after controlling for numerous risk factors, suggesting that it is care variation and not patient variation that is driving the differences in cesarean deliveries between hospitals. One might assume that such differences also impacts costs.

In a study in this edition of BJOG, the authors attempted to examine just that: how much do costs of pregnancy vary by hospital?.(Xu X, et al. BJOG, In Press) They conducted a large retrospective cohort study of pregnant women delivering in California over three years. Because there are presumably wide variations in costs of labor and delivery care related to parity and to preterm birth, the authors limited their sample to women who were nulliparous, with term singleton pregnancies and vertex presentations. Using administrative data, they examined hospital charges, adjusted using thoughtfully crafted cost-to-charge ratios.

The authors demonstrated that costs varied both between hospitals (comparing different hospitals to each other) and within hospitals (comparing different patients within the same hospital). The variation within hospitals declined when controlling for obstetric interventions such as cesarean delivery, though residual variability persisted. However, the variation between hospitals did not decline when controlling for obstetric interventions or patient characteristics. However, the variation did decrease by 30% when controlling for institutional characteristics such as hospital ownership, volume, urban vs. rural geography, and teaching vs. non-teaching status.

Perhaps some of this variation is related to providing higher quality of care. However, examination of quality outcomes did not support this premise. There was no association between hospital costs and maternal outcomes; neonatal outcomes actually worsened with increased costs. Thus, the hoped for value proposition that supports more costly care when it leads to better outcomes appears to be debunked by this study. Now, it may be that it is the worse outcomes that are leading to increased costs rather than the other way around, but certainly these data do not support the baseline hypothesis.

How to respond to such research? A first response might be: “so what?” Some variation in care is inevitable, but in the end, clinicians are going to provide the best care they can. But, the finding that there were actually worse neonatal outcomes while spending increased could be identifying where we are on the cost vs. quality curve in obstetrics in the US, where more health care in many settings leads to worse outcomes. Perhaps, but a better response to these findings is that we need additional research to understand what is causing these cost variations, including prospective studies and research from other nations. When such variation is identified, we will also need research on approaches to begin to reduce it.

**No disclosures.** The ICMJE disclosure forms are available as online supporting information.